

## AMENDMENTS TO THE CLAIMS

The following listing of claims shows the status of every claim that is, or ever was, in the instant application. This listing will replace all prior versions, and listings, of claims in the application:

### Listing of claims:

1 (Currently amended). A method for conditioning at least one conditionable participant to form a conditioned participant in a fuel cell reaction system comprising:

applying at least one conditioning frequency to said at least one conditionable participant to cause at least one of the formation, stimulation and stabilization of at least one conditioned participant, whereby said at least one conditioning frequency comprises at least one frequency selected from the group consisting of direct resonance conditioning frequencies, harmonic resonance conditioning frequencies and non-harmonic heterodyne conditioning resonance frequencies.

2 (Previously presented). The method of Claim 1, wherein said conditioned participant resonantly transfers energy with at least one participant in a fuel cell reaction system to affect at least one reaction pathway in said fuel cell reaction system.

3 (Previously presented). The method of Claim 2, further comprising applying at least one spectral energy pattern to said fuel cell reaction system.

4 (Previously presented). The method of Claim 3, wherein a rate of at least one reaction in said fuel cell reaction system is accelerated.

5 (Currently amended). ~~[[A]] The method of claim 1, to affect a wherein said fuel cell reaction system with a spectral energy catalyst comprises~~ [[ing]] the steps of:

~~targeting at least one participant in said fuel cell reaction system with at least one spectral energy catalyst to cause at least one of the formation, stimulation and stabilization of at least one transient or at least one intermediate to result in desired reaction product.~~ at least one member selected from the group consisting of an alkaline fuel cell, a direct methanol fuel cell, a membrane electrode assembly, a molten carbonate fuel cell, a phosphoric acid fuel cell, a polymer electrolyte membrane fuel cell, a protonic-ceramic fuel cell, or regenerative fuel cell and a solid oxide fuel cell.

6 (Currently amended). ~~[[A]] The method of claim 1, to affect a particular reaction pathway in a wherein said fuel cell reaction system with a spectral catalyst by augmenting a physical catalyst comprises~~ [[ing]] the steps of:

~~duplicating at least a portion of a spectral pattern of a physical catalyst with at least one~~

~~energy emitter source to form a catalytic spectral pattern; and~~

~~applying to the fuel cell reaction system at least a portion of the catalytic spectral pattern at a sufficient intensity and for a sufficient duration to catalyze at least one reaction in the fuel cell reaction system.~~ a polymer electrolyte membrane fuel cell.

7 (New). A method for conditioning at least one conditionable participant in a fuel cell reaction system comprising:

applying at least one applied spectral energy conditioning pattern at a sufficient intensity and for a sufficient duration to condition the conditionable participant to form a conditioned participant, whereby said at least one applied spectral energy conditioning pattern comprises at least one member selected from the group consisting of catalytic spectral energy conditioning pattern, catalytic spectral conditioning pattern, spectral conditioning catalyst, spectral energy conditioning catalyst, spectral energy conditioning pattern, spectral conditioning environmental reaction condition and spectral conditioning pattern.

8 (New). The method of claim 7, further comprising introducing an applied spectral energy pattern into a fuel cell reaction system before introducing the conditioned participant into the fuel cell reaction system.

9 (New). The method of claim 7, further comprising introducing an applied spectral energy pattern into a fuel cell reaction system during introduction of the conditioned participant into the fuel cell reaction system.

10 (New). The method of claim 7, further comprising introducing an applied spectral energy pattern into a fuel cell reaction system after introducing the conditioned participant into the fuel cell reaction system.

11 (New). The method of claim 7, wherein the conditionable participant is conditioned in a conditioning reaction vessel prior to being introduced to the fuel cell reaction system.

12 (New). The method of claim 11, wherein the conditionable participant is first conditioned in a conditioning reaction vessel prior to other components of the fuel cell reaction system communicating with said conditioned participant.

13 (New). The method of claim 11, wherein the conditioning reaction vessel is treated with conditioning energy prior to said fuel cell reaction system communicating therewith.

14 (New). The method of claim 7, wherein said fuel cell reaction system comprises at least one member selected from the group consisting of an alkaline fuel cell, a direct methanol fuel cell, a membrane/electrode assembly, a molten carbonate fuel cell, a phosphoric acid fuel cell, a polymer electrolyte membrane fuel cell, a protonic-ceramic fuel cell, a regenerative fuel cell and a solid oxide

fuel cell.

15 (New). A method to direct a fuel cell reaction system with a conditioned participant comprising the steps of:

targeting at least one conditionable participant in said fuel cell reaction system with at least one spectral conditioning pattern to cause at least one of the formation, stimulation and stabilization of at least one conditioned participant; and

applying or introducing the conditioned participant to the fuel cell reaction system to result in at least one desired reaction rate in said fuel cell reaction system.

16 (New). The method of claim 15, wherein said fuel cell reaction system comprises at least one member selected from the group consisting of an alkaline fuel cell, a direct methanol fuel cell, a membrane/electrode assembly, a molten carbonate fuel cell, a phosphoric acid fuel cell, a polymer electrolyte membrane fuel cell, a protonic-ceramic fuel cell, a regenerative fuel cell and a solid oxide fuel cell.

17 (New). A method for catalyzing a fuel cell reaction system with a conditioned participant comprising:

applying at least one spectral energy conditioning pattern for a sufficient time and at a sufficient intensity to cause at least one of the formation, stimulation and stabilization of at least one conditioned participant, so as to result in at least one desired reaction rate when said conditioned participant communicates with said fuel cell reaction system.

18 (New). The method of claim 17, wherein said fuel cell reaction system comprises at least one member selected from the group consisting of an alkaline fuel cell, a direct methanol fuel cell, a membrane/electrode assembly, a molten carbonate fuel cell, a phosphoric acid fuel cell, a polymer electrolyte membrane fuel cell, a protonic-ceramic fuel cell, a regenerative fuel cell and a solid oxide fuel cell.

19 (New). A method for forming a conditioned participant with at least one spectral energy conditioning pattern resulting in at least one conditioned participant comprising:

applying at least one member selected from the group consisting of at least one electromagnetic frequency, at least one electric field and at least one magnetic field to result in applied spectral energy conditioning pattern, and causing said at least one applied spectral energy conditioning pattern to result in the formation of at least one conditioned participant.

20 (New). The method of claim 19, wherein said conditioned participant is formed in a fuel cell reaction system vessel prior to communicating with other participants in said fuel cell reaction system.

21 (New). The method of claim 20, wherein said fuel cell reaction system comprises at least one member selected from the group consisting of an alkaline fuel cell, a direct methanol fuel cell, a membrane/electrode assembly, a molten carbonate fuel cell, a phosphoric acid fuel cell, a polymer electrolyte membrane fuel cell, a protonic-ceramic fuel cell, a regenerative fuel cell and a solid oxide fuel cell.

22 (New). A method for conditioning at least one conditionable participant in a fuel cell reaction system comprising:

applying at least one conditioning frequency to at least one conditionable participant to cause at least one of the formation, stimulation and stabilization of at least one conditioned participant, whereby said at least one frequency comprises at least one frequency selected from the group consisting of direct resonance conditioning frequencies, harmonic resonance conditioning frequencies, non-harmonic heterodyne conditioning resonance frequencies, electronic conditioning frequencies, vibrational conditioning frequencies, rotational conditioning frequencies, rotational-vibrational conditioning frequencies, fine splitting conditioning frequencies, hyperfine splitting conditioning frequencies, electric field splitting conditioning frequencies, magnetic field splitting conditioning frequencies, cyclotron resonance conditioning frequencies, orbital conditioning frequencies and nuclear conditioning frequencies.

23 (New). The method of claim 22, wherein said fuel cell reaction system comprises at least one member selected from the group consisting of an alkaline fuel cell, a direct methanol fuel cell, a membrane/electrode assembly, a molten carbonate fuel cell, a phosphoric acid fuel cell, a polymer electrolyte membrane fuel cell, a protonic-ceramic fuel cell, a regenerative fuel cell and a solid oxide fuel cell.

24 (New). A method for directing a fuel cell reaction system along a desired reaction pathway with a conditioned participant comprising:

applying at least one conditioning frequency to cause at least one conditioned spectral energy pattern of at least one conditioned participant to at least partially overlap with a spectral energy pattern of at least one participant in a fuel cell reaction system to permit the transfer of energy between said conditioned participant and said at least one participant.